Electronic TUBES

12BL6

PENTODE

FOR RF AND IF AMPLIFIER APPLICATIONS IN AUTOMOBILE RECEIVERS

DESCRIPTION AND RATING

The 12BL6 is a miniature remote-cutoff pentode intended for use as a radio-frequency or intermediate-frequency amplifier in automobile radio receivers. The tube is specially designed to operate with its plate and screen voltages supplied directly from a 12-volt storage battery.

GENERAL

ELECTRICAL

Cathode—Coated Unipotential

Heater Voltage, AC or DC	12.6*	Volts
Heater Current	0.15	Amperes
Direct Interelectrode Capacitances†		
Grid-Number 1 to Plate, maximum	0.006	μμf
Input	5.5	μμf
Output	4.8	μμf

MECHANICAL

Mounting Position—Any

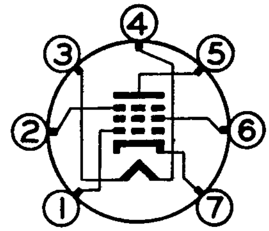
Envelope—T-5½, Glass

Base—E7-1, Miniature Button 7-Pin

* When used in automotive service from a 12-volt source, under no circumstances should the heater voltage be less than 10.0 volts or more than 15.9 volts. These extreme variations in heater voltage may be tolerated for short periods; however, operation at or near these absolute limits in heater voltage necessarily involves sacrifice in performance at low heater voltage and in life expectancy at high heater voltage. Equipment reliability can be significantly increased with improved supply-voltage regulation.

† With external shield (RETMA 316) connected to pin 7.

BASING DIAGRAM

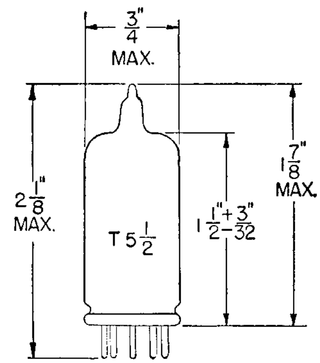


RETMA 7BK

TERMINAL CONNECTIONS

Pin 1—Grid Number 1
Pin 2—Grid Number 3 and Internal Shield
Pin 3—Heater
Pin 4—Heater
Pin 5—Plate
Pin 6—Grid Number 2 (Screen)
Pin 7—Cathode

PHYSICAL DIMENSIONS



RETMA 5-2

GENERAL ELECTRIC

MAXIMUM RATINGS

DESIGN-CENTER VALUES

Plate Voltage	30	Volts
Screen Voltage	30	Volts
DC Cathode Current	20	Milliamperes
Heater-Cathode Current		
Heater Positive with Respect to Cathode	30	Volts
Heater Negative with Respect to Cathode	30	Volts
Grid-Number 1 Circuit Resistance	10	Megohms

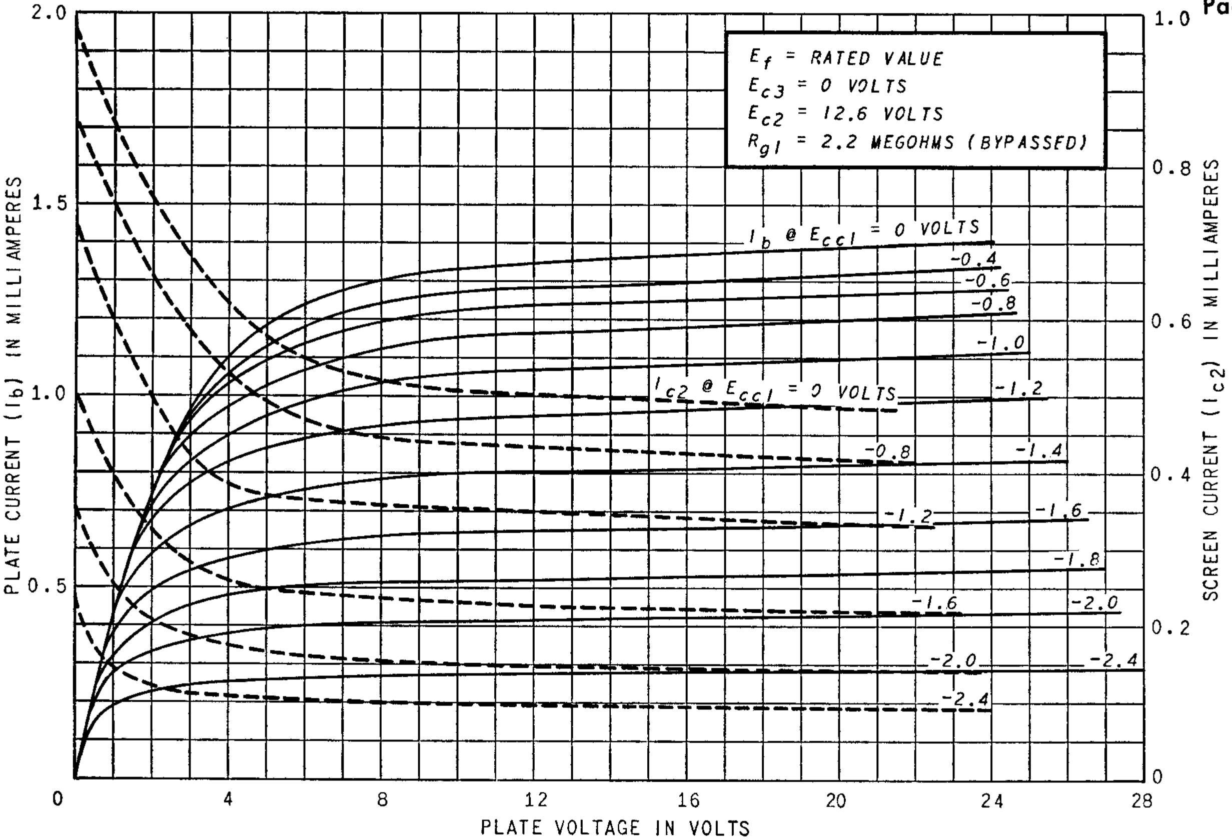
CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

Plate Voltage	12.6	Volts
Grid-Number 3 Voltage	0	Volts
Screen Voltage	12.6	Volts
Grid-Number 1 Supply Voltage	0	Volts
Grid-Number 1 Resistor	2.2	Megohms
Grid-Number 1 Voltage	−0.65‡	Volts
Plate Resistance, approximate	0.5	Megohms
Transconductance	1350	Micromhos
Plate Current	1.35	Milliamperes
Screen Current	0.5	Milliamperes
Grid-Number 1 Voltage, Approximate		
G_m (Grid Number 1 to Plate) = 10 Micromhos	−6.0	Volts
Grid-Number 1 and Grid-Number 3 Voltage, approximate		
G_m (Grid Number 1 to Plate) = 10 Micromhos	−5.0	Volts

‡ Average contact-potential bias developed across 2.2-megohm grid resistor.

AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS

